

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC**

In the Matter of Use of Spectrum Bands Above 24 GHz For Mobile Radio Services	)	GN Docket No. 14-177
	)	
	)	
Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands	)	IB Docket No. 15-256
	)	
	)	
Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band	)	RM-11664
	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services	)	WT Docket No. 10-112
	)	
	)	
Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations	)	IB Docket No. 97-95
	)	

**REPLY TO OPPOSITIONS TO PETITION FOR RECONSIDERATION  
OR, IN THE ALTERNATIVE,  
CLARIFICATION OF NEXTLINK WIRELESS, LLC**

Nextlink Wireless, LLC (“Nextlink”) respectfully replies to oppositions and comments on its Petition for Reconsideration or, in the Alternative, Clarification<sup>1</sup> of the Federal Communications Commission’s *Spectrum Frontiers Report and Order*.<sup>2</sup>

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<sup>1</sup> See Nextlink Wireless, LLC, Petition for Reconsideration or, in the Alternative, Clarification, GN Docket No. 14-177, *et al.* (filed Dec. 14, 2016) (“Nextlink Recon. Petition”).

## DISCUSSION

The record in this proceeding reflects the positive steps the Federal Communications Commission (“FCC” or “Commission”) took to promote deployment of next-generation networks over millimeter-wave (“mmWave”) spectrum. Equally clear is the strong support for reconsidering the performance requirements the Commission adopted in the *Report and Order*. The expedited performance requirements applied to incumbent Local Multipoint Distribution Service (“LMDS”) and 39 GHz licensees, together with the smaller geographic license sizes adopted for the spectrum, unfairly jeopardize incumbent licensees’ ability to deploy 5G networks using this newly relicensed spectrum. At a minimum, the accelerated timing by which incumbent licensees must meet the new performance requirements threatens to disincentivize and delay deployment in the near term.

The Commission has the opportunity to remedy these potential harms. Nextlink, along with several other parties, urges the Commission to relieve incumbent LMDS and 39 GHz licensees from onerous requirements adopted in the *Report and Order* by allowing incumbent licensees to meet the new Part 30 requirements at the same time as new Upper Microwave Flexible Use Service (“UMFUS”) licensees. Providing additional regulatory certainty can help ensure that Nextlink and other providers continue to drive an equipment ecosystem in these bands, thereby encouraging new UMFUS entry and promoting 5G deployment.

Additionally, Nextlink briefly rebuts certain erroneous arguments from satellite operators interested in thwarting deployment of new services over LMDS spectrum and protecting their own limited operations. The Commission should leave no proverbial stone unturned and allocate

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<sup>2</sup> See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Rulemaking, 31 FCC Rcd. 8014 (2016) (“*Report and Order*” or “*FNPRM*”).

for next-generation mobile services the maximum amount of spectrum possible to meet expected consumer and enterprise demand for advanced services.<sup>3</sup>

**A. Parties Agree with Nextlink that Incumbent 28 GHz A1 Band Licensees Need Relief from Onerous UMFUS Performance Requirements**

Parties urge the Commission to recognize that the new performance requirements for 28 and 39 GHz licensees, as adopted in the *Report and Order*, will increase deployment complexity, cost, and risk and inhibit 5G build-out. The expedited timeframe within which incumbent operators must comply with these onerous new requirements puts them at a disadvantage vis-à-vis new licensees, exacerbating these negative effects. The Commission should reconsider its performance requirements and licensing rules to avoid these negative consequences.

T-Mobile agrees with Nextlink that forcing incumbents to meet the new performance requirements in 2024 may not provide enough time for development of the related technologies and standards.<sup>4</sup> The Commission itself notes that there will be “significant lead time before the full development of the [mmWave] technology.”<sup>5</sup> Indeed, standards-setting bodies will not fully complete 5G standards until 2020 or 2021 and equipment design, manufacturing, and distribution will take additional time once the standards-setting process is completed. The FCC’s short-fuse performance requirements inject uncertainty into the 5G ecosystem. The new performance requirements also force licensees to deploy service in urban and rural areas simultaneously. As a

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<sup>3</sup> Nextlink agrees with Chairman Pai that the FCC will “need[] to think creatively about spectrum policy” as 5G “will impose big demands on airwaves.” See Ajit Pai, Twitter, @CiscoVNI (Feb. 8, 2017), <https://twitter.com/AjitPaiFCC/status/829349712063037440>.

<sup>4</sup> See T-Mobile USA, Inc., Petition for Reconsideration, GN Docket No. 14-177, *et al.*, at 9 (filed Dec. 14, 2016) (“T-Mobile Recon. Petition”) (“It is not yet evident how technology in the millimeter wave bands will develop, and there can be no assurance that products will be sufficiently established and available to meet a 2024 performance deadline.”).

<sup>5</sup> *Report and Order* ¶ 205.

result, licensees will not be able to take advantage of the initial return-on-investment created from deploying service initially in densely populated areas.<sup>6</sup>

But even if incumbents could comply with the burdensome new requirements, they would be at a disadvantage compared to new UMFUS licensees who will have at least three additional years to build out their UMFUS licenses.<sup>7</sup> The misaligned performance deadlines threaten to distort the equipment ecosystem and economic incentives for 5G services.<sup>8</sup> The Commission should therefore provide much-needed relief to incumbent licensees by, at a minimum, reconsidering its rules to better align its coverage obligations and deadlines with marketplace realities.

Several parties support Nextlink’s request that the FCC reconsider the new performance requirements given the potential harms the rules would likely cause. T-Mobile asks the Commission to revisit its performance requirements for incumbents to “remedy th[e] imbalance” created between incumbents and new licensees.<sup>9</sup> Other carriers urge the Commission to grant these petitions and amend the performance requirements adopted in the *Report and Order*. For example, the Fixed Wireless Communications Coalition (“FWCC”) “agree[s] that LMDS

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<sup>6</sup> As Nextlink explains in its Petition, by requiring 40 percent population coverage for mobile services in each county-based licensing area, the *Report and Order* will have the perverse effect of deterring rural deployment. Licensees will not be able to realize economies of scale by deploying in more densely populated areas in the first instance. For new licensees, the inflexible 40 percent coverage requirement will dampen incentives to buy licenses in predominately rural areas. The adoption of county-based licensing will further decrease those deployment incentives. See Nextlink Recon. Petition at 4-5; *Ex Parte* Letter from Michele C. Farquhar, Counsel to Nextlink Wireless, LLC and XO Communications, LLC, to Marlene H. Dortch, FCC, GN Docket No. 14-177, *et al.*, at 4 (filed June 8, 2016) (“Nextlink June 8 Ex Parte”).

<sup>7</sup> See T-Mobile Recon. Petition at 9 (explaining that “assuming an aggressive auction schedule,” new entrants will have until, at a minimum, 2027 to meet performance requirements—three years later than the expected deadline for incumbents).

<sup>8</sup> See, e.g., *id.* (“Changing performance requirements for incumbents and imposing a shorter deadline on them will disrupt current business plans with little potential benefit.”).

<sup>9</sup> *Id.* at 8-10.

incumbents need relief from requirements adopted long after they obtained their licenses, and which would be onerous if applied unchanged.”<sup>10</sup>

In this proceeding, Nextlink has offered a simple proposal: “the Commission should treat new and incumbent licensees alike.”<sup>11</sup> The Commission can do so by adopting Nextlink’s proposal to allow LMDS incumbents to meet new performance requirements at the same time as new UMFUS licensees. As Nextlink has explained, setting an earlier performance deadline for incumbents “would be fundamentally unfair based on the current expectations for standards setting and equipment availability.”<sup>12</sup> Allowing incumbents and new entrants to meet the new Part 30 performance requirements simultaneously provides regulatory parity and promotes industry collaboration in developing an equipment ecosystem.

FWCC and T-Mobile agree with Nextlink that the FCC should allow incumbent 28 GHz and 39 GHz licensees to meet the new Part 30 performance requirements at the same time as new UMFUS licensees. T-Mobile argues that the Commission should allow incumbent licensees to meet the new performance requirements at the same time as new entrants.<sup>13</sup> FWCC supports this proposal “[f]or simplicity and ease of application.”<sup>14</sup> Nextlink’s, FWCC’s, and T-Mobile’s

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<sup>10</sup> Fixed Wireless Communications Coalition, Comments on Petitions for Reconsideration, GN Docket No. 14-177, *et al.*, at 9-10 (filed Jan. 31, 2017) (“FWCC Recon. Comments”). Likewise, Blooston Rural Carriers opposes county-based licensing, and explicitly agrees with Nextlink that “county-based licensing necessitates more flexible performance obligations for LMDS incumbents.” *See* Blooston Rural Carriers, Comments in Support of Petitions for Reconsideration, at 1-2, 4-5 (filed Jan. 31, 2017) (“Blooston Recon. Comments”).

<sup>11</sup> *See Ex Parte* Letter from Michele C. Farquhar, Counsel to Nextlink Wireless, LLC and XO Communications, LLC, to Marlene H. Dortch, FCC, GN Docket No. 14-177, *et al.*, at 7 (filed July 8, 2016) (“Nextlink July 8 Ex Parte”).

<sup>12</sup> *See id.*

<sup>13</sup> T-Mobile Recon. Petition at 9.

<sup>14</sup> FWCC Recon. Comments at 12.

compromise proposal is an equitable solution that protects incumbent licensees' significant investments and grants them time to deploy next-generation services in the UMFUS band.<sup>15</sup>

Finally, the Commission should not include Tribal and federal lands in its performance requirements, consistent with past Commission precedent.<sup>16</sup> An alternate regime for Tribal and federal lands, such as case-by-case review or a substantial service safe harbor, would promote 5G deployment by reducing the cost and burden for licensees of deploying services to challenging areas with small populations.<sup>17</sup>

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<sup>15</sup> Nextlink notes that, in the alternative, the Commission could set a harmonized interim performance benchmark for incumbent and new UMFUS licensees and a final, uniform performance deadline at the end of new UMFUS licensees' initial license terms. *See* Nextlink Recon. Petition at 10-11.

<sup>16</sup> *See, e.g., Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, et al.*, Second Report and Order, 22 FCC Rcd. 15289, 15350 ¶ 160 (2007) (when applying geographic benchmarks, licensees were not required to include government lands as part of the relevant service area); *see also Amendment of Parts 1 & 22 of the Commission's Rules with Regard to the Cellular Serv., Including Changes in Licensing of Unserved Area, et al.*, Notice of Proposed Rulemaking and Order, 27 FCC Rcd. 1745, 1758-59 ¶ 29 (2012) (describing "the Commission's approach in the 700 MHz Service, where certain 700 MHz Service licensees were permitted to exclude 'government lands' from coverage calculation for purposes of compliance with prospective build-out requirements. In the 700 MHz proceeding, the Commission noted the frequent difficulty of, or specific prohibitions barring, in some instances (e.g., a military base), site access to government lands.").

<sup>17</sup> *See* Nextlink Recon. Petition at 6-8; Nextlink Wireless, LLC, Comments, GN Docket No. 14-177, *et al.*, at 29-30 (filed Sept. 30, 2016) ("Nextlink *FNPRM* Comments"). CTIA recently highlighted the difficulties wireless operators face in deploying on Tribal and federal lands, explaining "[w]ireless providers have often faced delays in seeking to deploy network infrastructure on federal lands and properties. Those delays can be substantial, impairing service even when the agencies and their employees would directly benefit from more robust and reliable broadband. . . . [T]he delays often result from different agencies having different procedures for reviewing those facilities, or from lacking clearly defined procedures." *See* CTIA, Comments before the Advisory Council on Historic Preservation, at 3 (filed Feb. 3, 2017).

## **B. Certain Satellite Operators Underestimate the Opportunities for 5G Deployment in Lower Millimeter-Wave Spectrum**

The Commission should reject Iridium's and SES/O3b's arguments to limit the potential for 5G deployment in the 28 GHz A2 band spectrum.

Iridium's and SES/O3b's main arguments in opposition to allocating the A2 band for flexible use is that smaller swaths of spectrum are of no benefit to potential 5G deployments.<sup>18</sup> This is a classic case of making the perfect the enemy of the good (or, put another way, confusing a preference with a necessity). Nextlink does not contest that, where available, larger contiguous bands of spectrum will be the preference for 5G systems. But Iridium and SES/O3b confuse commenters' *preference* for larger spectrum blocks as a gating criterion. The record clearly refutes the latter.<sup>19</sup> Nextlink and other parties have shown that bands narrower than 200 megahertz can be useful in the provision of 5G services.<sup>20</sup> For example, the A2 band could be

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<sup>18</sup> See Iridium Communications, Inc., Partial Opposition to Nextlink Petition for Reconsideration, GN Docket No. 14-177, *et al.*, at 4 (filed Jan. 31, 2017) ("Iridium Recon. Opposition") (arguing that the benefit to consumers of making the A2 band available for 5G services "would be minimal to nonexistent"); SES Americom, Inc. and O3b Limited, Opposition to Petitions for Reconsideration, GN Docket No. 14-177, *et al.*, at 16 (filed Jan. 31, 2017) ("SES/O3b Recon. Opposition") (claiming that commenters have agreed that "5G terrestrial service requires a minimum of 200 MHz of contiguous spectrum").

<sup>19</sup> For example, the first pleading SES/O3b cites in support of this proposition is Straight Path's comments in response to the *FNPRM*. SES/O3b Recon. Opposition at 16 n.57. But in that pleading, Straight Path specifically notes support in the record *for allocating smaller blocks of spectrum* for 5G service. See Straight Path Communications Inc., Comments, GN Docket No. 14-177, *et al.*, at 4 (filed Sept. 30, 2016). Other commenters agree. See, e.g., Samsung Electronics America, Inc. and Samsung Research America, Comments, GN Docket No. 14-177, *et al.* at 5-6 (filed Sept. 30, 2016) ("In bands with less available spectrum (smaller overall blocks), 100 MHz frequency blocks could also be an acceptable outcome.").

<sup>20</sup> See XO Communications, LLC, Comments, GN Docket No. 14-177, *et al.*, at 16 (filed Jan. 28, 2016) ("XO *NPRM* Comments"); Reed Engineering, *Maximizing the Utility of the Upper Microwave Flexible Use Service Bands via Licensee Flexibility and Sound Spectrum Usage Policies*, GN Docket No. 14-177, *et al.*, at 7-8 (filed Jan. 28, 2016) (attachment to XO *NPRM* Comments); Ericsson Inc., Comments, GN Docket No. 14-177, RM-11664, at 37 (filed Jan. 15, 2015).

used for supplemental downlink capacity for 5G service and bonded to another paired mmWave band using carrier aggregation. Terrestrial use of the A2 band for supplemental downlink would not be unlike the terrestrial and feeder link sharing that occurs today. The A2 band could provide critical capacity and accommodate the growing data traffic delivered on the downlink.

Iridium criticizes Nextlink for not addressing interference concerns related to 5G use of the A2 band, but Iridium does not present any technical evidence itself to suggest that mobile terrestrial operations cannot coexist with Iridium’s constellation—particularly Iridium’s system as it exists today. Iridium makes several assumptions about its future network and future 5G networks, some of which may or may not come to fruition, that bear on its interference claims. For example, Iridium claims that its “unique architecture creates a particularly challenging sharing environment for ubiquitous and *high-power* terrestrial deployments.”<sup>21</sup> But Iridium does not seem to consider the potential non-interference environment associated with lower-power terrestrial deployments. Additionally, Iridium claims that “to accommodate user demand, Iridium will have to expand the number of U.S. earth station locations beyond the number in operation today.”<sup>22</sup> But the FCC should not disregard a potential candidate band for 5G service in the meantime based on Iridium’s tentative plans for future deployments. A primary objective of the *Spectrum Frontiers* proceeding is to put millimeter-wave spectrum to its highest and best use as soon as feasibly possible.

Iridium further argues that the FCC should abandon the A2 band because the 2015 World Radiocommunication Conference did not identify the band as a candidate for IMT-2020.<sup>23</sup> The

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<sup>21</sup> See Iridium Communications, Inc., Comments, GN Docket No. 14-177, *et al.* at 5 (filed Jan. 27, 2016) (emphasis added) (“Iridium *NPRM* Comments”).

<sup>22</sup> *Id.* at 6.

<sup>23</sup> See Iridium Recon. Opposition at 6-7.



FCC previously recognized the imprudence of this argument when it exercised the leadership position of the U.S. to adopt service rules for the A1 band. Notably, satellite interests were responsible for blocking the ITU from studying 5G at the 28 GHz band—an “intransigen[t]” move Chairman Wheeler described as “frustrating” and “beyond disappointing.”<sup>24</sup>

Iridium’s remaining procedural argument (based on Iridium’s failure to appreciate that the FCC might consider reallocating the A2 band for flexible use) is without merit.<sup>25</sup> The Commission may adopt mobile rules for the remainder of the LMDS band given the iterative process in this proceeding targeting all suitable mmWave spectrum bands for next-generation services. In its *Notice of Inquiry*, the Commission sought comment on allocating for flexible use the A2 band specifically.<sup>26</sup> And while the Commission tentatively concluded in the *NPRM* not to allocate the A2 band for flexible use, it explicitly afforded itself latitude to consider the A2 band and other spectrum bands in the future: “the fact that a particular band or bands [were] not considered in this *NPRM* does not foreclose future Commission action on the band or bands.”<sup>27</sup> Iridium’s prior comments and reply comments on the *NPRM*, which are devoted almost entirely to advocating against allocation of the A2 band for flexible use, further undermine its notice argument.<sup>28</sup> Thus, the issue has been properly noticed and there are no procedural barriers to

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<sup>24</sup> See Remarks of The Hon. Tom Wheeler, Chairman, FCC before the 19th Annual Satellite Leadership Dinner 3 (Mar. 7, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-338135A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-338135A1.pdf).

<sup>25</sup> See Iridium Recon. Opposition at 8-10.

<sup>26</sup> See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Notice of Inquiry, 29 FCC Rcd. 13020 ¶¶ 50-51, 55 (2014).

<sup>27</sup> See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Notice of Proposed Rulemaking, 30 FCC Rcd. 11878, 11887 ¶ 20 (2015) (“*NPRM*”).

<sup>28</sup> See generally Iridium *NPRM* Comments; Iridium Communications, Inc., Reply Comments, GN Docket No. 14-177, *et al.* (filed Feb. 26, 2016).

including the A2 band in the UMFUS bands.<sup>29</sup> In this same vein, Nextlink reiterates the benefits of adopting flexible use rules for the A3 and B Band as well, as outlined in its Petition.<sup>30</sup> At a minimum, the Commission should align the performance requirements for the 28 GHz A1, A2, A3 and B bands to promote methodical utilization of the 28 GHz band by commercial operators and to ease the administrative burdens on current LMDS licensees.<sup>31</sup>

For each of these reasons, the FCC should not forego the opportunity to put the remainder of the LMDS band to work for 5G services, despite its smaller size compared to other UMFUS bands.

## CONCLUSION

By reconsidering its rules and adopting Nextlink's proposal to better tailor performance requirements for both incumbent and new UMFUS licensees, the Commission can promote 5G deployment by rural and incumbent carriers. Granting Nextlink's petition would help deliver the benefits of 5G services while correcting disruptions the new licensing and performance requirements would cause to incumbent licensees.

Respectfully submitted,

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<sup>29</sup> See Nextlink *FNPRM* Comments at 16-17.

<sup>30</sup> See Nextlink Recon. Petition at 11-13. No commenter opposed adopting flexible service rules for this 300 megahertz of neighboring, contiguous spectrum.

<sup>31</sup> See Section A, *supra*.

## **CERTIFICATE OF SERVICE**

I, C. Sean Spivey, certify that on February 24, 2017, I served a copy of the above *Reply to Oppositions to Petition for Reconsideration or, in the Alternative, Petition for Clarification of Nextlink Wireless, LLC* by electronic and U.S. mail on the following parties pursuant 47 C.F.R. §§1.47, 1.429(g):

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